

Begins

Roll # 267

Krotov, G.A.

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000826710001-6



APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000826710001-6"

Magnesian, Terrastrial-Donets Basin

Magnetic observatory in the Donets Basin for mine surveying work, (Tasty), VHM1, 22,19

9. Monthly List of Russian Accessions, Library of Congress, October 1957, Uncl  
APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826710001-6"

KROTOV, G. A.

"Study of Behavior of Magnetic Declination of the Donbass Meridian".  
Nauch tr. Mosk. gorn. in-ta, No. 12, pp 16-37, 1954.

The magnetic orientation of Donbass mines was studied in connection with the variations of the meridional declination. Because the Makeyevskaya Declination Observatory was destroyed during the war, a possibility was established of using the Odessa and Mikhne-Devitskaya Observatory using magnetic measurements carried out at Donbass. A survey showed that variations of declinations at the mines are the same at 1,000 m dept and on the surface. (RZhAstr, No. 1, 1956)

SO: Sum No 884, 9 Apr 1956

KROTOV, Gavriil Alekseyevich; TYUPKIN, S.N., otvetstvennyy redaktor;  
SLAVOROSOV, A.Kh., redaktor izdatel'stva; MADEINSKAYA, A.A.,  
tekhnicheskiy redaktor

[Underground surveying in drawn and mined workings] Marksheiderskaya  
skhemka oshistnykh i nareznykh gornykh vyrabotok. Moskva, Ugletekhnizdat  
1956. 179 p. (MIRA 9:10)  
(Mine surveying)

RYZHOV, Petr Aleksandrovich, prof., doktor tekhn.nauk; BUKHINSKIY, Viktor Aleksandrovich, dotsent, kand.tekhn.nauk; GUDKOV, Valentin Mikhaylovich, kand.tekhn.nauk; KNOTOV, Gavriil Alekseyevich, dotsent, kand.tekhn.nauk; LYUBMAN, IERAIL' Borisovich, assistant; RUZDAKOV, Mikhail Lazarevich, prof., doktor; PIKULIN, A.P., kand. tekhn.nauk, ratsenzent; BUTKEVICH, T.V., red.; PARTSEVSKIY, V.N., red.isd-va; BEKKER, O.G., tekhn.red.

[Mine surveying] Marksheiderskoe delo. Pod nauchnoi red. P.A. Ryzhova. Moskva, Gos. nauchno-tekhn.isd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 463 p. (MIRA 12:1)  
(Mine surveying)

KROTOV, G.A.

~~Ultrasonics~~ and their use in mine surveying. Zap. LGI 37 no.1:  
132-149 '58. (MIRA 12:8)

(Mine surveying)

(Ultrasonic waves--Industrial applications)



KAZAKOVSKIY, Dmitriy Antonovich, prof., doktor tekhn.nauk; AVERSHIN, Stepan Gavrilovich, prof., doktor tekhn.nauk; BELOLIKOV, Antonin Nikolayevich, dotsent, kand.tekhn.nauk; GUSEV, Mikhail Iosifovich, dotsent, kand.tekhn.nauk; ZDANOVICH, Vyacheslav Grigor'yevich, prof., doktor tekhn.nauk; KROTOV, Gavriil Alekseyevich, dotsent, kand.tekhn.nauk; LAVROV, Vladimir NIKOLAYEVICH, kand.tekhn.nauk; LEBEDEV, Kirill Mikhaylovich, assistant; PYATLIN, Mikhail Petrovich, dotsent, kand.tekhn.nauk; STENIN, Nikolay Ivanovich, assistant; BUKRINSKIY, V.A., otv.red.; SLAVOROSOV, A.Kh., red.isd-va; ALADOVA, Ye.I., tekhn.red.; KOROVENKOVA, Z.A., tekhn.red.

[Mine surveying] Marksheiderskoe delo. Moskva, Ugletekhnizdat, 1959. 688 p. (MIRA 13:11)

(Mine surveying)

KAZAKOVSKIY, D.A., prof., doktor tekhn.nauk; KROTOV, G.A., dots., kand.tekhn.  
nauk; GURIN, A.A., kand.tekhn.nauk

Use of acoustical equipment for solving of mine surveying problems.  
Nauch.dokl.vys.shkoly; gor.delo no.2:85-91 '59. (MIRA 12:7)  
(Mine surveying)  
(Ultrasonic waves--Industrial applications)

KAZAKOVSKIY, D.A., prof.; KROTOV, G.A., dots.; GURICH, A.A., kand.tekhn.  
nauk

Use of sound ranging for the solution of geological and mine  
surveying problems. Gorn.zhur. no.9:70-71 S '60. (MIRA 13:9)  
(Mining geology) (Mine surveying)

KROTOV, G.A., dotsent

Use of the results of a sonar survey to determine the losses in dredging placer deposits. Izv. vys. ucheb. zav.; gor. zhur. 6  
no.3:39-46 '61. (MIRA 16:10)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni  
gornyy institut imeni G.V.Plekhanova. Rekomandovana kafedroy  
marksheyderskogo dela.

KAZANOVSKIY, D.A., prof.; KROTOV, G.A., dotsent; GURICH, A.A., kand.  
tekh. nauk

Use of sound-fixing apparatus in dredge workings. Izv. vys.  
ucheb. zav.; gor. zhur. no.6:40-48 '61. (MIRA 16:7)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo  
Znameni gornyy institut imeni G.V. Plekhanova. Rekomendovana  
kafedroy marksheyderskogo dela.

(Mine surveying—Equipment and supplies)

(Sound—Equipment and supplies)

ARANOVICH, V.B.; GURICH, A.A.; KROTOV, G.A.; HUDNEV, L.N.

Technical errors in sound ranging measurements in mine  
surveying. Zap. LGI 46 no.2:117-130 '63. (MIRA 17:6)

ACC NR: AT6032747

SOURCE CODE: UR/0000/66/000/000/0177/0185

AUTHOR: Krotov, G. A.

ORG: none

TITLE: Use of echo-sounding in solving mining problems

SOURCE: In: SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'trazvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 177-185

TOPIC TAGS: mining engineering, seismic prospecting, acoustic method

ABSTRACT: Investigations conducted by the Leningrad Mining Institute in the application of echo-sounding in geological mining problems are discussed. Successful application has been achieved in 1) echo-location surveying and in working placer deposits by dredging, 2) determining the form and size of inaccessible mining faces, and 3) checking the state of underground brine-filled chambers. The research was under the direction of Professor D. A. Kazakovskiy. The article contains echograms showing the bottom deposits of Lake Gladyshevskoye, as well as a diagram depicting the borehole technique used to probe underground salt- and brine-filled cavities. Orig. art. has: 2 figures.

SUB CODE: 08/ SUBM DATE: 28Mar66/

Card 1/1

MYSHENKOV, D.P.; KRUTOV, I.A.

Modeling equipment made of the AK-1 material. Mashinostroitel'  
no.12:23 D '64. (MIRA 18:2)



S/113/60/000/004/006/007  
D249/D301

AUTHORS: Myshenkov, D.P. and Krotov, I.A.

TITLE: Elimination of nitroenamel destruction in the zone of welded seams

PERIODICAL: Avtomobil'naya promyshlennost', no. 4, 1960, 35

TEXT: Formation of deposit and destruction of the lacquer paint film in the zone of welded seams was observed on automobiles ЯАЗ (YaAZ). The investigation, carried out in the Central Laboratory of the Yaroslavl'skiy motornyy zavod (Yaroslavl' motor plant), disclosed that this deposit consists of carbonates of alkali metals. Caustic alkalis destroy the paint film on welded seams and, by absorbing the carbon dioxide from the atmosphere, turn into carbonates which deposit in the form of a white coating. To investigate this process, metal plates were prepared on which seams were welded, using for it the electrodes OMM-5 and ML-7 (MTs-7). The plates were treated by water vapor and carbon dioxide until a white coating appeared on the welded seams. Having established the

Card 1/2

Elimination of nitroenamel...

S/113/60/000/004/006/007  
D249/D301

chemical composition of the coating the investigators applied a number of weak acids solutions (phosphorus, oxalic, chromic) to remove it. The best results were obtained when a weak solution of chromic anhydride was used. When the scale was removed the welded seams were twice washed by a solution containing 0.1% of chromic anhydride, 0.05% potassium bi-chromate and 0.85% water. [Abstractor's note: Rest of the solution not given]. The temperature of the solution was 60-70°C.

ASSOCIATION: Yaroslavskiy motornyy zavod (Yaroslavl' motor plant)

Card 2/2

KROTOV, I.B.

Composition of rust formed on iron in contact with water and air.

Zhur.fiz.khim. 30 no.8:1696-1701 Ag '56.

(MIRA 10:1)

1. Akademya nauk SSSR, Institut fizicheskoy khimii. Moskva.  
(Iron--Corrosion)

KROTOV, I. N.

"Basic Errors in the Calculations of Water-Supply Systems and Methods for Improvement." Sub 21 Apr 51, All-Union Sci Res Inst of Water Supply, Sewerage, Hydraulic Structures and Engineering Hydrogeology (VODGEC)

Dissertations presented for science and engineering degrees in Moscow during 1951

SO: Sum. No. 480, 9 May 55

~~KROTOV, I.M.~~ KONTYUSHKOV, A.M., kandidat tekhnicheskikh nauk nauchnyy  
redaktor; GOLUBEIKOVA, L.A., redaktor; TOKER, A.M., tekhnicheskii  
redaktor

[Precision methods of calculation for water supply lines] Priemy  
utochnennogo rascheta vodoprovodnykh setei. Moskva, Gos. izd-vo  
lit-ry po stroitel'stvu i arkhitekt. 1954. 103 p. (MIRA 8:4)  
(Water supply engineering)

НА-100;  
TURK, Vladimir Ivanovich, kandidat tekhnicheskikh nauk, dotsent; ZANEVSKIY, M.S., kandidat tekhnicheskikh nauk, dotsent; KROTOV, I.M., inzhener, nauchnyy redaktor; SMIRNOVA, A.P., redaktor izdatel'stva; EL'KINA, E.M., tekhnicheskiiy redaktor.

[Pumps and pumping stations] Nasosy i nasosnye stantsii. Izd.2-oe, perer.i dop. Moskva, Gos.izd-vo lit-ry po stroit.i arkhitekt., 1957.  
181 p. (MIRA 10:11)

(Pumping machinery) (Pumping stations)

ABRAMOV, N.M., prof., doktor tekhn.nauk; GENIYEV, N.M., prof., doktor tekhn.nauk [deceased]; PAVLOV, V.I., dotsent, kand.tekhn.nauk [deceased]. Primali uchastiye: KLYACHKO, V.A.; KASTAL'SKIY, A.A.; POKROVSKIY, V.N.; MOSHIN, L.F., prof., retsenzent; MINTS, D.M., prof., retsenzent; ABRAMOV, S.K., dotsent, retsenzent; BONDAR', F.I., inzh., retsenzent; KROTOV, I.M., kand.tekhn.nauk, nauchnyy red.; SMIRNOVA, A.P., redist-vr; MEDVEDEV, L.Ya., tekhn. red.; SOLOVYOV, L.M., tekhn.red.

[Water-supply engineering] Vodosnabzhenie. Izd.3., perer. Moskva, Gos.izd-vo lit-ry po stroit., arkh. i stroit.materialam, 1958. (MIRA 12:5)  
578 p.

(Water-supply engineering)

BABAIA, K.E.; KROTOV, A.V.

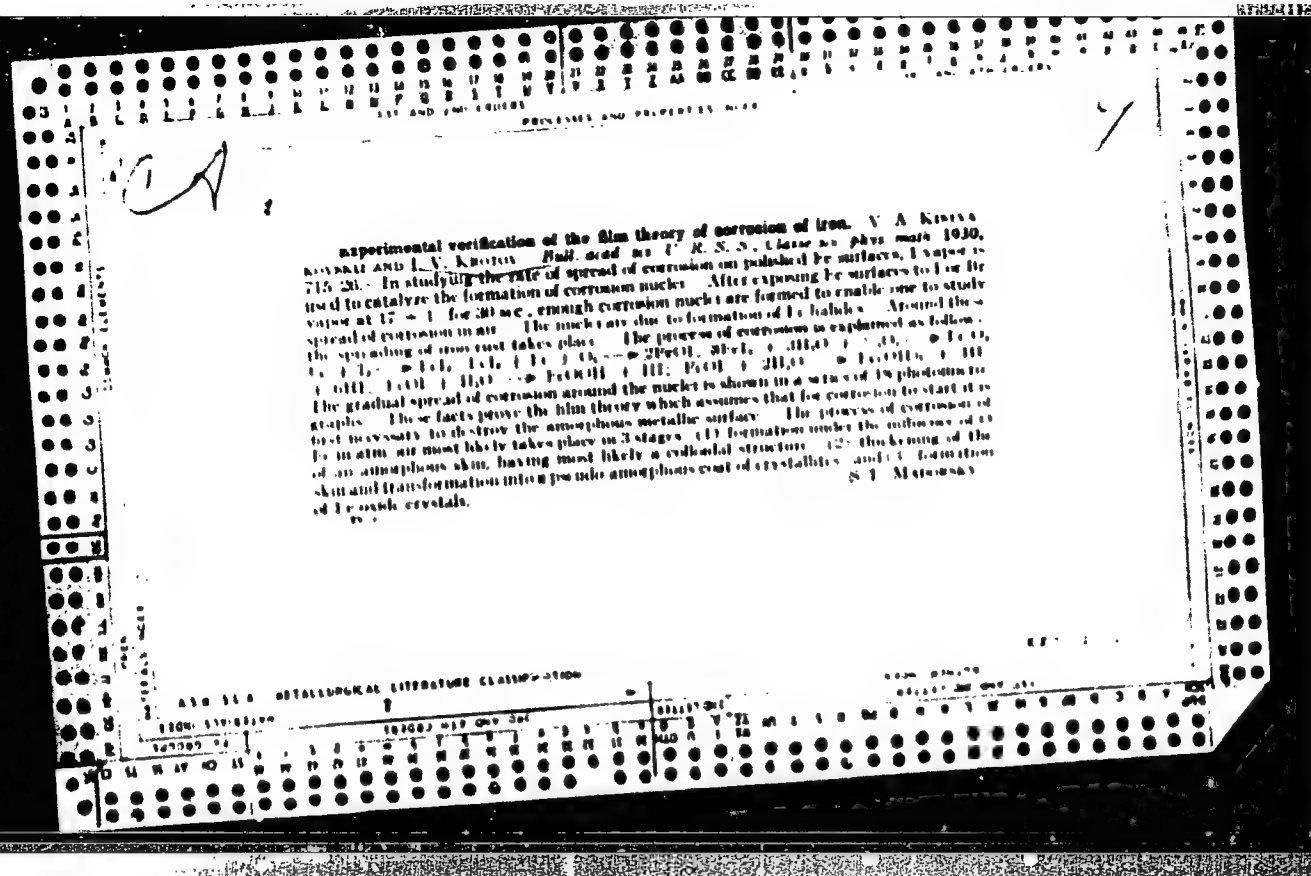
Problem of mullet breeding in the littoral lakes and the  
Danube Delta. Hidrologia 4:329-336 '63.



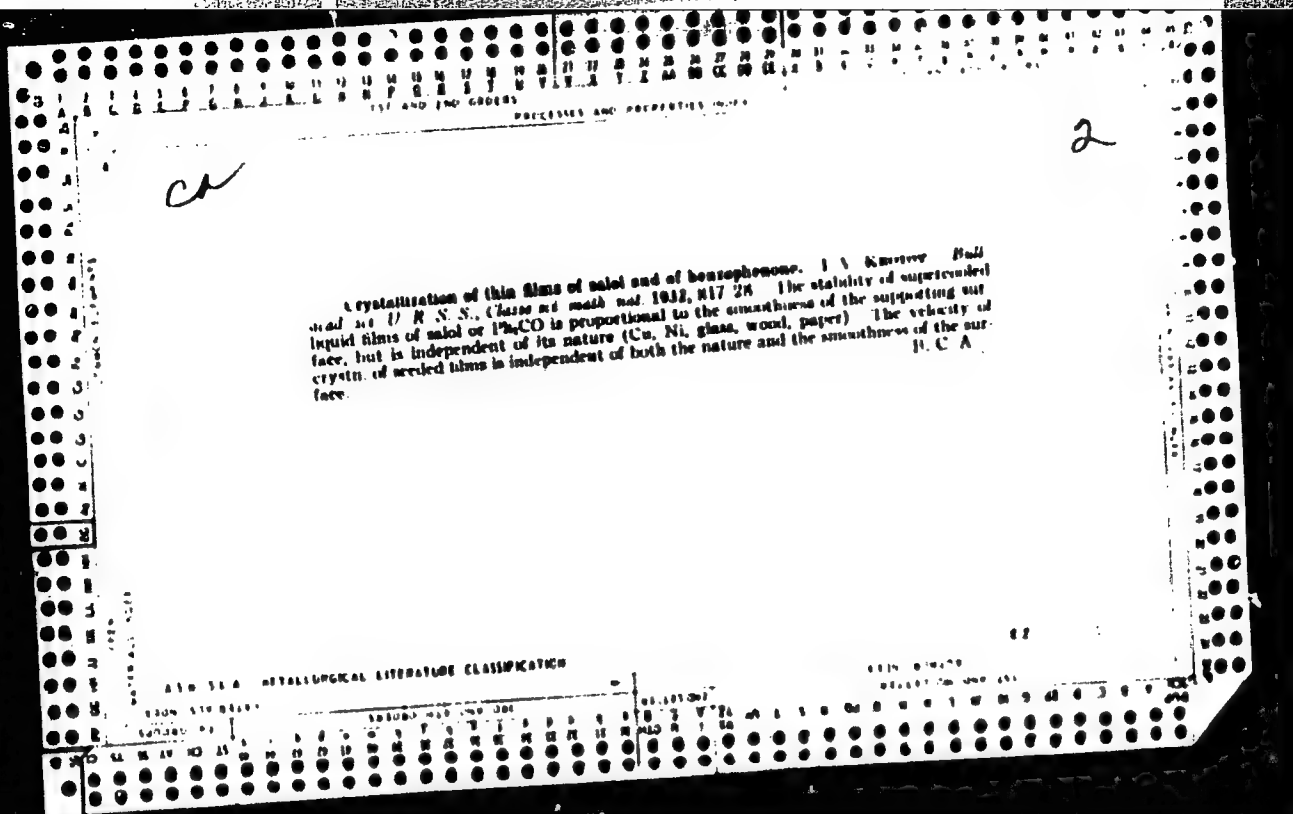
KROTOV, I.S.; MAYOROVA, T.A., zootekhnik.

Restore the fame of Siberian butter. Nauka i pered. op. v sel'khoz.  
7 no. 5: 4-5 My '57. .... (MIRA 10:6)

1. Upravlyayushchiy Novosibirskiy trejstom "Masloprom" (for Krotov).
2. Cherepanovskiy sovkhos, Novosibirskoy oblasti.  
(Siberia--Butter)







Methods of obtaining and investigating stannous and stannous thiocyanates. I. V. KUDRY. (comp. 1964).  
 and. rel. U. R. S. S. R. 1964 (in Russian) (1964).  
 Sn(CNS)<sub>2</sub> was obtained from 10 g. of SnCl<sub>4</sub>·5H<sub>2</sub>O dissolved in 100 cc. H<sub>2</sub>O with the addition of 8.5 g. KCN in 100 cc. KOH. The KCl ppt. was filtered (yield 5.8 g.) and the filtrate evaporated to about 25 cc. in the absence of O<sub>2</sub>. The Sn content of the light yellow crystals was determined by electrolysis. Fifteen g. KOH was dissolved in 100 cc. H<sub>2</sub>O, 0.5 g. of crystals and a small quantity of perhydrol were added, the soln. was boiled and 15 g. (CNS)<sub>2</sub> added;

then it was diluted to 175 cc. and electrolyzed for 3 hrs. with 1.75 amp. and 4 v. with Pt electrodes. Sn content of compound Sn(CNS)<sub>2</sub>·(H<sub>2</sub>O)<sub>2</sub>: calcd., 33.8%; found, 35.0%. The compound decomposes with bangs to coke on heating. Sn(CNS)<sub>2</sub> was obtained by adding a soln. of 13.6 g. KCN in 100 cc. H<sub>2</sub>O to 4 cc. liquid SnCl<sub>4</sub> in 40 cc. KOH. The KCl ppt. was filtered (yield about 50 g.) and the filtrate evaporated to 15 cc. in the absence of O<sub>2</sub>. Analysis of the compound. Filtrate gave the formula Sn(CNS)<sub>2</sub>·(H<sub>2</sub>O)<sub>2</sub>.  
 A S S.

050 314 DETAIL SUPPLEMENT LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX																																																				
<p>CP</p> <p>4</p> <p>Protective films on magnesium obtained by electrolysis in solutions of sodium silicate and potassium dichromate. I. V. Krolav and O. O. Ivanov. <i>Bull. acad. sci. U. R. S. S. R., (Class. sci. math. nat. 1934, 921-8 (in French 920))</i>.</p> <p>cf. C. A. 29, 102<sup>8</sup>.—A systematic study of conditions was made by using the Mg as anode and an Fe cathode. The most stable films were obtained as follows: electrolyte, 27 cc. of conc. Na silicate soln. (23% SiO<sub>2</sub>), 6 cc. of 3% K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> soln., 167 cc. of H<sub>2</sub>O; c. d. 0.015 amp./sq. cm.; electrode spacing 9 cm.; voltage 8-9.5 v.; temp. 15°; time 30 min. After the layer of silicic acid was lifted off, the samples were dried at 120° for 1 hr. The stability of the films was studied by measuring the rate of H<sub>2</sub> evolution in a special app. <span style="float: right;">Ramsel Katsoff</span></p>																																																				
ASB-55A METALLURGICAL LITERATURE CLASSIFICATION																																																				
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1ST AND 2ND COVER		PROCESSING AND PROPERTIES INDEX		3RD AND 4TH COVER	
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<p>*Investigation of Protective Coatings on Magnesium and Alu. Obtained with the Aid of Molten Oxidizing Agents. I. V. Krotov and G. G. Ivanov (<i>Light Metals</i>, 1964, (4), 36-38).—[In Russian.] The corrosion-resistance of oxide films on aluminum and magnesium produced by immersion in molten salts has been determined in a 3:1 mixture of 3% sodium chloride solution and 30% hydrogen peroxide and in plain 3% sodium chloride solution, respectively. The best salt mixture was found to be sodium nitrate 84, potassium nitrate 66, and potassium dichromate 5 gm. at 350° C.; before immersion the metal should be cleaned in hydrofluoric acid.—D. N. B.</p>					
ADD-SEA METALLURGICAL LITERATURE CLASSIFICATION					
3300 SYMBOLISM		33000 HWY ONE ONE		33000 HWY TWO	
33000 HWY ONE ONE		33000 HWY TWO		33000 HWY THREE	
33000 HWY THREE		33000 HWY FOUR		33000 HWY FIVE	
33000 HWY FIVE		33000 HWY SIX		33000 HWY SEVEN	
33000 HWY SEVEN		33000 HWY EIGHT		33000 HWY NINE	
33000 HWY NINE		33000 HWY TEN		33000 HWY ELEVEN	
33000 HWY ELEVEN		33000 HWY TWELVE		33000 HWY THIRTEEN	
33000 HWY THIRTEEN		33000 HWY FOURTEEN		33000 HWY FIFTEEN	
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33000 HWY EIGHTYNINE		33000 HWY NINETY		33000 HWY NINETYONE	
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33000 HWY NINETYNINE		33000 HWY HUNDRED		33000 HWY HUNDREDONE	
33000 HWY HUNDREDONE		33000 HWY HUNDRETTWO		33	

PROCESSING AND PROPERTIES INDEX	
BC	BI-6
<p>Protective films on magnesium obtained by electrolysis of sodium silicate and potassium dichromate. I. V. Kozlov and O. U. Ivanov (Bull. Acad. Sci. U.S.S.R., 1984, 7, 981-989).—Electrolysis of a solution containing 37 c.c. of 33.3% <math>\text{Na}_2\text{SiO}_3</math>, 6 c.c. of 3% <math>\text{K}_2\text{Cr}_2\text{O}_7</math>, and 187 c.c. of <math>\text{H}_2\text{O}</math> with a Mg anode and an Fe cathode gives the most stable films. R. S.</p>	
<p>ADD. 55A METALLURGICAL LITERATURE CLASSIFICATION</p>	



1ST AND 2ND COPIES										3RD AND 4TH COPIES									
PROCESSES AND PROPERTIES INDEX																			
<p><i>M</i></p> <p><b>*The Nature of the Solid Solution of Antimony in Lead.</b> N. W. Agnew and I. W. Krotov (<i>J. Ind. Metals</i>, 1936, 46, 301-308; discussion, 300-310; also (in Russian) <i>Trudi Leningrad. Indust. Inst.</i>, 1936, (4), 26-31).—X-ray analysis and density determinations show that the solid solution of antimony in lead is of the simple monatomic type. The thermodynamic analysis is not in contradiction to this conclusion if errors of the order of 2° C. are assumed to exist in the equilibrium diagrams.—N. A.</p> <p><i>Colloids-Electrochem Inst., USSR</i></p> <p>Chem. Gp, Acad. Sci..USSR.</p>																			
ADD. 5.1 A METALLURGICAL LITERATURE CLASSIFICATION																			
FROM LITERATURE										FROM BROWSE									
1930-1939										1940-1949									
1950-1959										1960-1969									
1970-1979										1980-1989									
1990-1999										2000-2009									


PROCESS AND PROPERTIES INDEX	
<p>*The Nature of the Solid Solution of Antimony in Lead. N. W. Agnew and                      I. V. Kozlov. (Izv. Akad. Nauk SSSR, Fiziko-Khim. Anal. (Ann. Section Anal.                      Phys. Chem.), 1938, 10, 119-128).—[In Russian.] See Met. Abs., 1938, 8,                      633.—N. A.</p>	
<p>Ch, Lab. Corrosion Metals, Div. Colloido-Electrochem. Metals.</p>	
<p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>	
<p>100000 1100 000 000</p>	<p>10000 000 000 000</p>
<p>10000 000 000 000</p>	<p>10000 000 000 000</p>

KROTOV 418V8

600

1. KROTOV, I.V.
2. USSR (600)

"An Answer to the Criticism by G. V. Akimov of I.V. Krotov's Article 'A Theory of the Passive Condition of Iron'; 13, No. 4, 1939;

9.  Report U-1613, 3 Jan. 1952.

CA

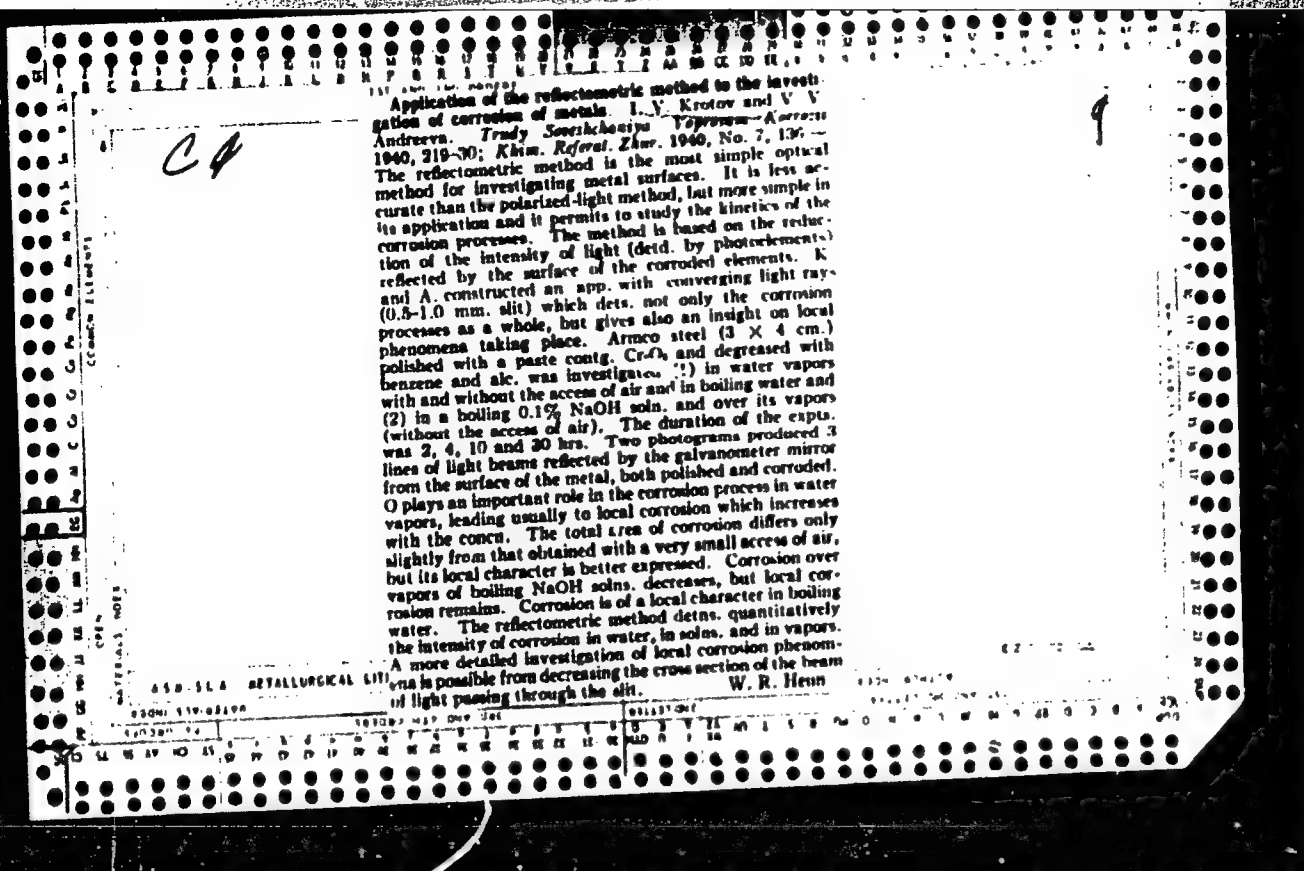
Underground corrosion of steel and iron not protected by special films. I. V. Krutov. *Izvestiya Vsesoyuznogo Nauchnogo Tsentra Khim. Referat. Zhur.* 1960, No. 7, 131. — The corrosion of metal in the soil is affected by the chem. compn. and structure of the soil. K. constructed an app. by means of which the access of O to the corroding surface of the metal can be measured under field conditions. The performance of the app. is based on observations of the pressure in the balloon connected to a pipe sunk into the soil to a definite depth. The initial pressure in the balloon is approx. 1.5 atm. There is observed a definite relation between the amt. of air passing through the soil layer and the intensity of the corrosion process. W. R. Henn

1

ASTM-5.4 METALLURGICAL LITERATURE CLASSIFICATION

The passive state of metals. L. V. Kargin, *Trudy Sovetskogo Nauchnogo Tsentra Korrozii* 1960, No. 6, Khim. Referat. Ser. 1960, No. 7, 128. — An exp. was constructed for measuring the Fe electrode potential under conditions of a slow access of  $O_2$  to the surface of the Fe. The electrode potential of Fe in contact with a drop of KCl soln. was measured. A drop of KCl soln. mixed with benzene and  $CCl_4$  (d. approx. 1) dependent on an Fe plate from a calomel electrode preserved its hemispherical shape. A higher potential produced a drop with a larger diam. The potential of the Fe electrode under the conditions described varied with the previous history of the sample under investigation, with the diam. of the drop of the KCl soln. and with change in the place of contact of the surface and the drop hanging from the tip of the capillary of the calomel electrode. Fe that was very active at the beginning of the measurements often became passive in time. Fe that was passive at the beginning of the measurements became gradually more active. The potential of the Fe electrode changed, depending on the time of exposure to the soln. A method of detg. the elec. resistance between the cathode and anode regions of the drop is described. Considering that the concn. of  $O_2$  is proportional to the distance between the boundary and the active and passive zones and only that part of  $H_2$  formed on the cathode which is used up in the reduction of the film, K. concludes that the passivating film on the surface of polished Fe consists of a thin layer of  $Fe_3O_4$ . This agrees with the data of Treustad and other investigators.

W. W. HERR



9

CH

Sodium hexametaphosphate as inhibitor of corrosion of iron in salt solutions. E. I. Gurevich and L. V. Kistov. *Zh. Fiz. Khim.* (U.S.S.R.) 40, 1946 (no. 10) (in Russian).  
Addn. of  $(NaP_6O_{10})_x$  (precip. by heating  $NaH_2PO_4$  or  $NaH_2PO_3$ , to 700-80° and rapidly cooling) to  $CaCl_2$  soln. ( $20^\circ C$ ) inhibited corrosion of Fe; with 10 y ml., the loss of wt. after 3 months was 0.2 g./sq. dm. as against 3.75 without the inhibitor. This concn. is optimum and corresponds to longest persistence of the inhibiting effect; curves of loss of wt. against concn. of  $(NaP_6O_{10})_x$ , drawn for exposures from 15 to 105 days, all show a min. and crowd together at 10 y ml. In NaCl ( $20^\circ C$ ), the inhibiting effect of 10 y ml.  $(NaP_6O_{10})_x$  is somewhat greater than in  $CaCl_2$ ; after 3 months, it was reduced 19.5 times as against 18.5 times; in 3 months, it rose uniformly from 0.04 to 0.50 g./sq. dm.; the min. of  $\alpha$  as a function of concn. is somewhat flatter, lying between 8 and 10 y ml.  $(NaP_6O_{10})_x$ . In a 50-50 mixt. of the  $CaCl_2$  and NaCl solns., 10 y ml. is still optimum; the corresponding inhibition of  $\alpha$  is 13:1 after 3 months. In half-immersion, the inhibiting effect is still 4-5 times; it falls to nearly zero in intense circulation of the soln. N. Thon

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSING AND PROPERTIES INDEX																																								
<div style="display: flex; justify-content: space-between;"> <span>B</span> <span>16</span> </div> <p>New Method for Determination of the Thickness of Naturally Formed Films on Metals. (In Russian.) I. V. Krotov and T. M. Khachadurova. <i>Izvestiya Akad. Nauk SSSR, Otdelenie Khimicheskikh Nauk</i> (Bulletin of the Academy of Sciences of the USSR, Section of Chemical Sciences), Jan.-Feb. 1948, p. 60-66.</p> <p>Describes a simple method for the above using a stylus weighted with lead collars of varying weights. The relationship of depth of abrasion to load for films on aluminum is shown graphically. The curve has 2 sections: one corresponding to deformation of the film without rupture, and one to rupture. Results of a large number of observations were tabulated and subjected to theoretical analysis. This led to a graphical and mathematical method for determining film thickness from the deformation section of the curve. The thickness of films formed in air was found to be in the range 130-250 Å.</p>																																								
ASB-55A METALLURGICAL LITERATURE CLASSIFICATION																																								
<table border="1"> <tr> <td>140000</td> <td>140001</td> <td>140002</td> <td>140003</td> <td>140004</td> <td>140005</td> <td>140006</td> <td>140007</td> <td>140008</td> <td>140009</td> <td>140010</td> <td>140011</td> <td>140012</td> <td>140013</td> <td>140014</td> <td>140015</td> <td>140016</td> <td>140017</td> <td>140018</td> <td>140019</td> <td>140020</td> </tr> </table>																				140000	140001	140002	140003	140004	140005	140006	140007	140008	140009	140010	140011	140012	140013	140014	140015	140016	140017	140018	140019	140020
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C.A

7

Corrosion of iron in contact with the boundary between an electrolyte solution and an organic liquid. Effect of different cations and anions on the corrosion process. I. V. Kostov. Doklady Akad. Nauk SSSR 30, 1451 (1948). The corrosion was observed in 24 hrs. exposures of Fe strips immersed in 0.13 N solutions of electrolytes covered with kerosene. In  $\text{Na}_2\text{SO}_4$ ,  $\text{CuSO}_4$ ,  $\text{FeSO}_4$ ,  $\text{MnSO}_4$ ,  $\text{MgSO}_4$ , and  $\text{CdSO}_4$ , corrosion was noticeable mostly only at some distance below the boundary of the 2 liquid phases, whereas in  $\text{H}_2\text{SO}_4$  and in  $\text{Al}_2(\text{SO}_4)_3$ , there was visible attack along the boundary. The nature of the cation makes a difference only insofar as it lowers the pH through hydrolysis of the salt. In expts. with the same cation (Na) and different anions, corrosion began a few mm. below the phase boundary in  $\text{NaCl}$  and in  $\text{NaNO}_3$ . No corrosion was observed in  $\text{Na}_2\text{CO}_3$  down to 0.0417 N, and only sporadic corrosion in 0.0104 N  $\text{NaNO}_3$  prevents corrosion completely down to a concn. of 0.0001 N; in a 0.00016 N soln., corrosion begins a few mm. below the boundary.  $\text{NaOH}$  protects in the concn. range 0.333-0.0104 N, corrosion appearing at the edges of the sample along the phase boundary at a diln. of 0.001 N.  $\text{Na}_2\text{CrO}_4$  protects down to a concn. of 0.001 N while  $\text{Na}_2\text{HPO}_4$  protects down to 0.0001 N. There is no rusting at pH > 12. The sp. protective action of the anions  $\text{CrO}_4^{2-}$  and  $\text{NO}_3^-$  is attributed to plugging of pores in the passivating film. N. Thom

Moscow Order Lenin Aviation Inst. in. Aerghonikage

PROCESSING AND PROPERTIES INDEX	
Ca	<p>Processes of drop corrosion of aluminum. 1. Corrosion of aluminum in contact with drops of salt solutions without addition of free acid. I. V. Krutov and T. M. Khochimova. <i>Izv. Akad. Nauk S.S.S.R.</i>, 1944, Khim. Nauk 1940, 18-20. - Drops of 0.1 N solns. of NaCl, CaCl<sub>2</sub>, and CuCl<sub>2</sub> deposited on a polished Al surface cause corrosion scattered over the whole area of the drop, and of a depth increasing in the above order. The corrosive action of the solution increases in the same order, with Na<sub>2</sub>SO<sub>4</sub> practically ineffective. Nitrates are still less effective. From CuCl<sub>2</sub>, metallic Cu is pptd. densely over the whole area covered by the drop, from CuSO<sub>4</sub> only a few discrete Cu crystals are pptd., from Cu(NO<sub>3</sub>)<sub>2</sub> metallic Cu is pptd. mainly along the edge of the drop. Where a drop of CuCl<sub>2</sub> and CuSO<sub>4</sub> do not spread, there is some spreading of drops of Cu(NO<sub>3</sub>)<sub>2</sub> and AgNO<sub>3</sub>, and the tarnish ring adjacent to the drop spreads continuously. In the tarnished zone, free acid can be detected by Congo paper. Drops of mixed solns. of CuCl<sub>2</sub> (or CuSO<sub>4</sub>) and Cu(NO<sub>3</sub>)<sub>2</sub> give rise to phenomena similar to those observed with Cu(NO<sub>3</sub>)<sub>2</sub> alone. If the surface is scratched, preferably after deposition of the drop, metallic Cu is deposited immediately along the scratch from either Cu(NO<sub>3</sub>)<sub>2</sub> or Cu(NO<sub>3</sub>)<sub>2</sub> + CuCl<sub>2</sub>. In the absence of air, in a CO<sub>2</sub> atm., a drop of Cu(NO<sub>3</sub>)<sub>2</sub> ppts. Cu all over the area covered by the drop, not predominantly along its edge, but the total amt. of Cu pptd. is less than in the presence of air. Pptn. of Cu along scratches, under CO<sub>2</sub>, is much slower than in air. N. Thom</p>
<p>ASA-11A METALLURGICAL LITERATURE CLASSIFICATION</p>	

CA

1 Vladimir Aleksandrovich Kiselevskii, I. V. Krotov.  
Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1990.  
861-4.—Summary of scientific work and biography, with  
portrait, on 80th jubilee. G. M. Kosolapoff

CA

2

Induction period in the displacement of copper from its solutions by passivated iron. I. V. Krotov (Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 70, 863-86 (1981).—Fe plates, passivated for definite lengths of time  $t$  in air at 478–485° were immersed in solns. of  $\text{CuSO}_4$  or of  $\text{CuSO}_4 + \text{H}_2\text{SO}_4$ , and the time  $\tau$  of first appearance of the color of metallic Cu was noted. Induction periods were observed, of a length depending on the thickness  $y$  of the oxide film, calcd. from  $t$  by the empirical relation  $y^2 = k_1 t + k_2$ , with the constants  $k_1$  and  $k_2$  found experimentally by interference colors. In  $\text{CuSO}_4$ , 0.05 N,  $\tau$  increases with  $y$ , first slowly, then much more rapidly from  $y \sim 100 \text{ \AA}$ . up. At about 200–250  $\text{\AA}$ ,  $\tau$  decreases abruptly, evidently as a result of cracks developed in thick oxide films. In the presence of  $\text{H}_2\text{SO}_4$ ,  $\tau$  is, at equal  $y$ , considerably shorter than in  $\text{CuSO}_4$  alone. At const. concn. of  $\text{H}_2\text{SO}_4$ , and varying concn. of  $\text{CuSO}_4$ ,  $\tau$  passes through a min. at 0.372 N  $\text{CuSO}_4$ , at all  $y$ . The induction period is drid. by soln. of the oxide film necessary to bare Fe for the anodic phase of the displacement reaction. In the range of short  $\tau$ , thin ( $\sim 20 \text{ \AA}$ .) oxide films are dissolved slowly, at about 10  $\text{\AA}/\text{sec.}$ , whereas thicker (up to 200  $\text{\AA}$ .) oxide films are dissolved much faster, at about 180  $\text{\AA}/\text{sec.}$

N. Thon

4975. - A general discussion of the effect of gases, particles, and  
suspended in the air, humidity, etc.  
etc. in the various areas of research.  
etc. structure of metal, and much of the  
corrosion of metals. The theory of corrosion of  
C.A. 25, 3681 is analyzed.

21

KROTOV, I. V.

Chemical Abst.  
Vol. 8, No. 9  
May 10, 1954  
Metallurgy and Metallography

① *WCI*  
Corrosion of iron in gasoline, kerosene, and water containing sodium chromate. I. V. Krotov and T. M. Khachadurova. *Zhur. Priklad. Khim.* 26, 606-71 (1953).—*Fe* immersed one half in a layer of aq. electrolyte, the other half in supernatant liquid fuel (aviation or cracked gasoline or kerosene) is uniformly and appreciably corroded in contact with aq. phase only. Adding  $K_2CrO_4$  to the latter reduces corrosion sharply. With distd.  $H_2O$ , 0.5N concn. of  $K_2CrO_4$  suppresses corrosion completely. Adding  $K_2CrO_4$  to electrolyte transforms corrosion from general to localized. Corrosion is inhibited by  $K_2CrO_4$  only in weak aq. electrolytes not contg. significant amts. of dissolved salts. The type of liquid fuel affects corrosion only slightly. E. M. E.

Experiments (1) were carried out with lead acetate and lead  
sulfate in an 8% layer for 1 month. The results are shown in Table 1.  
water as the solvent. The concentration of  $\text{NaNO}_2$  was 0.1% and the  
concentration of  $\text{NaNO}_3$  was 0.01%. The reaction was carried out at  
and 0-1% for benzene and 0-1% for gasoline. The results are shown in Table 2.  
concentrations at the following concentrations of  $\text{NaNO}_2$  and  $\text{NaNO}_3$ :  
0.1% for benzene and 0.5% for gasoline. The results are shown in Table 3.  
electrochemical cell.

USSR/Chemistry      Physical chemistry

Card                : 1/1      Pub. 147 - 22/25

Authors            : Krotov, I. V.

Title              : Composition and mechanism of formation of a film on iron

Periodical        : Zhur. fiz. khim. 28/7, 1327 - 1330, July 1954

Abstract          : The composition and mechanism of formation of an oxide film, formed on an iron surface during alkaline burnishing, were investigated electrochemically. Chemical-analytical and thermographic studies of the composition of such an outside film on a burnished iron surface led to the conclusion that this film consists of  $Fe_3O_4$  plus a small amount of adsorbed moisture. It was established that the entire process of alkali burnishing of iron and steel surfaces is a purely electrochemical process. Four references: 3 USSR and 1 German (1920 - 1944). Graphs.

Institution        : Acad. of Sc. USSR, Institute of Physical Chemistry, Moscow

Submitted         : December 25, 1953



KROTOV, I. V.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 4/27

Authors : Krotov, I. V.

Title : Theory about the process of formation of an anodic film on aluminum

Periodical : Zhur. fiz. khim. 28/9, 1550-1554, Sep 1954

Abstract : The existence of  $Al(OH)_3$  and  $AlOOH$  in the composition of an anodic film formed on aluminum in sulfuric acid solutions, was established by chemo-analytical and thermographic methods. It is also shown that the components of the anodic film on Al form directly during the anodic process and that the anodic solution of the Al in the pores of the film offer a protective measure against the solution of the film in acid. It was established that the process of anodic film formation of Al in sulfuric acid solutions is an electro-chemical and colloidal-electrochemical process as well. Eleven references: 4-USSR; 1-Japanese; 1-German; 5-USA (1932-1951). Graph.

Institution : Academy of Sciences USSR, Institute of Physical Chemistry, Moscow

Submitted : July 8, 1953

KROTOV IV

...the presence of a small  
amount of  $MgHPO_4 \cdot 5H_2O$  is highly probable. It is pro-  
posed that the layer of phosphates represents a solid solution of  
phosphates of Fe and Mn. Minute amounts of Fe and phos-  
phates could not be determined in the analysis.

The pyrites gradually lose hydrogen as they are heated.  
M

✓ 3083\* Problems of Investigating Corrosion of Sintered-Iron  
Products. K voprosu o metodike issledovaniia korrozii pere-  
shchivogo zheleza. (Russian.) I. V. Kuzov. Zhurnal prikladnoi  
khimii, v. 28, no. 12, Dec. 1955, pp. 1862-1867.  
Corrosion-testing difficulties caused by non-homogeneity and  
porosity. Quantitative determination of rust by cathodic removal  
in a 2% solution of sulfuric acid. Diagrams. 4 ref.

USSR/Kinetics - Combustion. Explosions. Topochemistry. Catalysis. B-9

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18610

Author : I.V. Krotov.

Title : Composition of Rust developing of Iron in Contact with Water and Air.

Orig Pub : Zh. fiz. khimii, 1956, 30, No 8, 1696-1701

Abstract : The composition of not freshly formed rust produced by Fe powder ground in a whirling grinder and rusting in air (previously wetted with distilled water) was studied by the chemico-analytical and thermographic methods. As it seems, rust consists of  $\gamma$ -FeOOH, which loses the absorbed water when heated to 149°. In the author's opinion,  $\gamma$ -FeOOH transforms into  $\delta$ -Fe<sub>2</sub>O<sub>3</sub> at a further temperature rise. This process discontinues at about 290°. The process of transition from  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> into  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> ends at about 676°.

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... is attributed by the author to the strong bonding between H<sub>2</sub>O and Al<sub>2</sub>O<sub>3</sub> in this variety of aluminum hydroxide.

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APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000826710001-6

AUTHOR: Krotov, I. V. (Moscow) 74 27 5-5/6

TITLE: On the Use of Radioactive Isotopes in the Investigation of Corrosion Processes and the Passivation of Metals  
(Primeneniye radioaktivnykh izotopov v issledovanii protsessov korrozii i passivirovaniya metallov)

PERIODICAL: Uspekhi Khimii, 1958, Vol. 27, Nr 5, pp 643-667 (USSR)

ABSTRACT: In carrying out investigations with marked atoms,  $\beta$ -particles,  $\gamma$ -rays or combinations of both types of radiation are in most cases used. In the introduction the author emphasizes that 2 characteristic features of radioactive substances must be taken into consideration when using it: the half-life and the energy of radioactive radiation. The use of radioactive isotopes emitting particles of a very low energy, as for example the hydrogen-isotope (tritium), requires much more sensitive methods of radiation recording. After further statements on the advantages of the method of radioactive isotopes section 2 of the paper deals with the exchange mechanism between marked ions in the solution and the surface of a metal. The author discusses the investigations

Card 1/3

On the Use of Radioactive Isotopes in the Investigation of Corrosion Processes and the Passivation of Metals 74-27-5-5/6

of the exchange mechanism (between ions and metals) in solutions which contained ions of radioactive cobalt (works by Simnad and Ruder, reference 8), the investigations by von Hevesy and Elitz (reference 9) and the experiments with nickel samples in the absence of oxygen (where it was proved that nickel attains a much lower activity than cobalt). After further concrete statements the investigation of the purification processes of metals on the basis of the use of marked atoms is discussed in section 3 of the paper. In this connection the published results by Hensley and King (references 14, 15) and the methods of application by Esch, Fabian and Neuman (reference 16) are mentioned. Section 4 deals with the use of stable and radioactive isotopes in the investigation of some corrosion processes. In section 5 the use of marked atoms in the investigation of the mechanism of action of the corrosion inhibitors is discussed. In this connection the works by Brasher and Stove (reference 24), Powers and Hackerman (reference 25), Van Hong, Eisler, Brotzin and Harrison (reference 26) are referred to. In section 6 the author deals with the investigation of

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On the Use of Radioactive Isotopes in the Investigation of Corrosion Processes and the Passivation of Metals 74-27-5-5/6

phosphate coatings on metals by means of marked atoms. In this connection some works and investigation results are discussed, such as those by Boyd, Golan, Markowitz (reference 29), Pryor, Brown, and Cohen (reference 30), Eisler and Doss (reference 36). At the end the author of the present report deals with the employment of the method of autoradiography in investigations of the properties of metal surfaces. There are 5 figures and 42 references, 9 of which are Soviet.

1. Corrosion--Radiographic analysis
2. Radicisotopes--Application

Card 3/3

KROTOV, I.V.; GRININA, V.V.; ZAPOL'SKAYA, N.A.

Formation of aluminum phosphate and chromium films on aluminum  
and its alloys. Zhur. prikl. khim. 31 no.1:33-40 Ja '58.

(MIRA 11:4)

(Thermal analysis) (Aluminum alloys) (Metallic films)



3/00/00/00 3/01/01/01  
100 1/0 1

AUTHORS: Krotov, I. V., Grinina, V. V.

TITLE: / The Densimetric Method for Determining the Thickness of Protective  
Films on Metals

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 11, pp. 2606-2607

TEXT: The following methods are described in literature for determining the thickness of protective films on metals: - The gravimetric method (Refs. 1-3), the electrochemical method (Refs. 4-6), the optical method (Refs. 7-9), the spectral method (Ref. 10), the roentgenographic method (Ref. 11), the volumetric weight method (Ref. 12), the determination by means of a double Lipnik's microscope (Refs. 13-15) for transparent films, the determination by means of the spark-over voltage, and the determination by means of the visible volume (Ref. 19). The following method is proposed here: a sample of sheet material covered with a protective film weighing  $A$  g and with a total area of  $S$  cm<sup>2</sup> is used. This sample is placed into a pycnometer filled with a liquid of density  $d_1$  g/cm<sup>3</sup> and is weighed. The obtained weight will be  $C$  g. The weight of the pycnometer with the liquid will be  $B$  g. The average density of the sample with protective film is

Card 1/2

S/080/60/033/011/013/014  
A003/A001

The Densimetric Method for Determining the Thickness of Protective Films on Metals

designated as  $d_{av}$  g/cm<sup>3</sup>, the thickness of the protective layer as  $h$  cm, the density of the film as  $d_f$  g/cm<sup>3</sup>, the thickness of the metal layer in the sample with the film as  $h_{Me}$  cm, the quantity of the free metal in the sample with the film as  $g$ . The following formula was found:  $C = B + A \frac{d_f}{d_{av}}$ , from which follows:  $d_{av} = \frac{B+A-C}{A d_f}$ . The value  $g$  is determined by Ref. 19 as  $g = Sh_{Me} d_{Me}$ , where  $d_{Me}$  is the tabular value.  $A = (2h_f + h_{Me}) S d_{av}$ , from which follows:  $h_f = \frac{A - g}{2 S d_{av}}$ .  $A = 2 Sh_f d_f + g$ , from which follows:  $d_f = \frac{A - g}{2 Sh_f}$ . [Abstractor's note: Subscripts  $l$  (liquid),  $av$  (average) and  $f$  (film) are translations from the Russian  $zh$  ( $zhidkost'$ ),  $sr$  ( $sredniy$ ) and  $pl$  ( $plenka$ )]. The error of the method described is approximately 10% for films with a thickness of 10  $\mu$ . There is 1 table, 1 figure and 22 references: 9 Soviet, 10 English, 3 Italian.

SUBMITTED: March 7, 1960

Card 2/2

TIKHONOV, Mikhail Konstantinovich; KROTOV, I.V., doktor khim. nauk,  
prof., otv. red.; GORSHKOV, G.B., red.izd-va; ZUDINA, V.I.,  
tekhn. red.; GUS'KOVA, O.M., tekhn. red.

[Corrosion and the protection of concrete and reinforced-  
concrete hydraulic structures] Korroziia i zashchita mcr-  
skikh sooruzhenii iz betona i zhelezobetona. Moskva, Izd-  
vo Akad. nauk SSSR, 1962. 119 p. (MIRA 15:3)

(Hydraulic structures--Corrosion)  
(Concrete construction--Corrosion)

KAZNACHEYEV, Yu.I.; KROTOV, I.V.; GRININA, V.V.; KOLESNIKOVA, N.A.

Producing a film on a wave-guide in order to protect it from corrosion and ensure small losses on centimeter and millimeter radio waves. Zhur.prikl.khim. 35 no.12:2684-2687 D '62.

(MIRA 16:5)

1. Institut fizicheskoy khimii AN SSSR i Institut radiotekhniki i elektrophiki AN SSSR.

(Protective coatings) (Radio waves)

(Electronic apparatus and appliances--Corrosion)

PUTILOVA, Iya Nikolayevna; LEVANT, Grigoriy Yefimovich; RAYTSYN,  
Genrikh Aleksandrovich; MENKOVSKIY, Mikhail Abramovich;  
KROTOV, Ivan Vasil'yevich; LOSEV, Boris Ivanovich;  
STUKOVNIN, N.D., red.

[Course in general chemistry] Kurs obshchei khimii. [By]  
I.N.Putilova i dr. Moskva, Vysshaya shkola, 1964. 444 p.  
(MIRA 18:1)

KRUTOV, L. B.

"Experience of Preventive Maintenance Tests of 825-v Traction Network Cables,"  
"Operation of Cable Networks" (Ekspluatatsiya kabeley i kabel'nykh setey), Gosenergoizdat,  
1949, 384 pp.

KROTOV, L.B., inzh.

Special circuits used in rail systems to reduce stray currents.  
Vest. TSNII MPS no. 5:52-53 J1 '58. (MIRA 11:8)  
(Electric railroads--Wires and wiring)  
(Electric currents, Leakage)

18(7)(67) PHASE I BOOK EXPLOITATION SOV/2246  
 Zashchita podzemnykh metallicheskikh sooruzheniy ot korrozii:  
 spravochnik. (Protection of Underground Metal Structures From  
 Corrosion: Manual) Moscow, Izd-vo N-va Kommunal'nogo khoz.  
 stroit., 1959. 703 p. Errata slip inserted. 6,000 copies printed.  
 M.: P.I. Ryabchev; Ed. of Publishing House: V.G. Anstov; Tech.  
 M.: Ye. S. Petrovskaya.  
 PURPOSE: This collection of articles is intended as a manual on  
 corrosion protection of underground metal structures.  
 COVERAGE: The book is divided into four parts. The first part  
 gives information on the characteristics of underground metal  
 structures and sources of stray currents. The second part deals  
 with the theory of soil corrosion of metals and the theory of  
 corrosion of metals by stray current. The third part deals with  
 the problem of combating leakage from sources of stray current,  
 methods and devices for investigating corrosion and the funda-  
 mental measures for preventing corrosion. The fourth part  
 contains measures for preventing corrosion of underground metal  
 structures and gives the basic operating principles of equipment  
 involved. 10 personalities are mentioned. References follow  
 Card 1/26



Protection of Underground Metal (Cont.;

SOV/2246

- |   |     |
|---|-----|
| II. Measures for limiting and reducing leakage of current from subway rails (L.B. Krotov)   | 326 |
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Protection of Underground Metal (Cont.)

SOV/2246

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ALFESASHVILI, A.A. (Moskva); BYKOV, Ye.I. (Moskva); ZHELYAZNAYA, Ye.A. (Moskva);  
KURTSINA, Z.T. (Moskva); KURTSINA, Z.T. (Moskva); KURTSINA, Z.T. (Moskva);  
KURTSINA, Z.T. (Moskva); KURTSINA, Z.T. (Moskva); KURTSINA, Z.T. (Moskva);

New semiconductor rectifiers for subway traction substations.  
Elektrichestvo no.1:42-48 Ja '65. (KIRA 18:7)

L 11551-66 EWT(1)/EWT(m)/EEC(k)-2/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD

ACC NR: AP6005026

SOURCE CODE: UR/0105/65/000/001/0042/0048

AUTHOR: <sup>44</sup>Aleksashkin, A. A.; <sup>41</sup>Bykov, Ye. I.; <sup>44</sup>Zemlyanaya, Ye. A.; <sup>44</sup>Krotov, L. B.;  
Kurtsina, Z. T.; <sup>44</sup>Poselenov, L. B.; <sup>44</sup>Sakovich, A. A.; <sup>44</sup>Yuditskiy, S. B.

ORG: none

TITLE: New <sup>15.14</sup>semiconductor rectifiers for the rectifier substations of subways

SOURCE: Elektrichestvo, no. 1, 1965, 42-48

TOPIC TAGS: semiconductor rectifier, electric engineering, electric substation equipment

ABSTRACT: Computations are presented to prove the feasibility and economy of replacing the six IVS-500/2 type sealed mercury-arc rectifiers with stacks of VK-200/4A type silicon rectifier cells (average current 200 amp; operating peak inverse voltage [PIV] 400 v; rated PIV 600 v) in the rectifier substations that supply 825 volts d-c for subway traction. The computed six-phase rectifier unit has six parallel branches per phase, with six series-connected cells per branch. The number of parallel branches is computed on the basis of peak load and surge current, taking the circuit-breaker interrupting time into consideration. The number of series-connected cells is computed on the basis of the PIV's, with allowances for variations in the supply voltage. The overall efficiency of the rectifier unit is 98.9 percent. It is assembled from modular stacks (12 cells and one fan per module) and fits into two cabinets 800 by 600 by 2000 mm. Although at present silicon rectifiers are more expensive than mercury-arc

Card 1/2

UDC: 621.314.632.4:621.311.44:625.42

L 11551-66

ACC NR: AP6005026

rectifiers (due to the high cost of single-crystal silicon and the low level of automation), conversion of subway substations to such rectifiers pays for itself in five to six years, and the economy of building new rectifier substations of this type is even greater. Orig. art. has: 4 figures, 23 formulas, and 1 table.

[JPRS]

SUB CODE: 09 / SUBM DATE: 08Jun64 / ORIG REF: 002

HW

Card 2/2

KUZNETSOV, V.N.; KROTOV, L.F.

Production of antifriction, heat-resistant cast iron by the alloying  
of ordinary gray cast iron in the ladle. Lit. proizv. no.5:39 My '62.  
(MIRA 16:3)

(Cast iron—Metallurgy)

KROTOV, L.N., inzhener.

Spacing for air drying of Siberian larch lumber. Der.prom. 5 no.9:  
18 S '56. (MIRA 9:10)

1.Sibirskiy lesotekhnicheskiy institut.  
(Lumber--Drying) (Larch)

KROTOV, L. N.: Master Tech Sci (diss) -- "Investigation of atmospheric drying of sawdust from the lumber of the Siberian larch". Leningrad, 1958, 12 pp  
(Min Higher Educ USSR, Leningrad Order of Lenin Forestry Engineering Acad im S. M. Kirov), 150 copies (KL, No 7, 1959, 124)



KROTOV, MODEST. A .

Rodnaia Iakutia [My Yakutia].  
IAkutsk, 1952. 218 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 7 October 1953

KROTOV, Modest Alekseyevich; GOLUBKOVA, V.A., red.; ROZEM, E.A., tekhn.red.

[In the Far North] Na severe dal'nom. Moskva, Izd-vo "Sovetskia  
Rossia," 1957. 213 p. (MIRA 11:5)  
(Yakutia)

ARGUNOV, I.A., red.; VASIL'YEV, S.N., red.; KORVAKIN, P.I., red.; KROTOV, —  
M.A., red.; LUKONIN, G.A., red.; TOMSKIY, S.K., red.; CHERSKIY,  
N.V., red.; CHIRYAYEV, G.O., red.; SOLOV'YEVA, Ye.P., tekhn.red.

[Forty years of the Yakut A.S.S.R.] 40 let Iakutskoi ASSR.

Iakutsk, Iakutskoe knizhnoe izd-vo, 1962. 189 p.

(MIRA 16:1)

(Yakutia—Economic conditions)

(Yakutia—Culture)

KROTOV, N., inzh.

Show interest and concern in our integrated brigades. Mor. flot  
23 no.3:7-8 Mr '63. (MIRA 16:3)

1. Otdel truda i zarabotnoy platy Potiyskogo porta.  
(Wages—Longshoremen)

307/78-4-8-13/43

5 (2)

AUTHORS:

Rode, Ye. Ya., Krotov, H. A.

TITLE:

The Physico-chemical Investigation of Silico-12-Tungstic Acid  
(Fiziko-khimicheskoye izucheniye kremne-12-vol'framovoy  
kisloty)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8,  
pp 1782 - 1793 (USSR)

ABSTRACT:

The authors give the publication data which are available on the compound mentioned in the title (Refs 1-19). This compound shows cis-trans-isomerism. On the basis of radiographic analysis its formula is  $H_4[SiW_{12}O_{40}] \cdot nH_2O$ . The compound was investigated in solid crystalline state at different degrees of hydration. Figures 1 - 3 show the thermographic analysis, figure 4 shows the polythermal lines of the preparations of different hydration, figure 5 the isothermal lines of decomposition, figure 6 the diagram composition - temperature and figure 7 the isothermal lines of vapor pressure for preparations of different hydration. The results may be summarized as follows: at 40 - 44° a liquefaction and decomposition of the hydrate with  $n = 33H_2O$  takes place. The hydrate is formed with

A

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Car.

Card 1/2

ences,  
General and Inorganic Chemistry  
the Academy of Sciences, USSR)

RODE, Ye.Ya.; KROTOV, N.A.

Tetrasubstituted lithium salt of silico-12-tungstic acid.  
Zhur.neorg.khim. 8 no.4:939-949 Ap '63. (MIRA 16:1)

1. Institut obshchey i neorganicheskoy khimii imeni M.S.Kurnakova  
AN SSSR.

(Lithium compounds) (Silicotungstic acid)

KROTOV, N.A.; RODE, Ye.Ya.

Acid lithium salts of silico-l2-tungstic acid. Zhur. neorg.  
khim. 8 no.7:1722-1736 J1 '63. (MIRA 16:7)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.  
Kurnakova AN SSSR.  
(Silicotungstic acid) (Lithium salts)

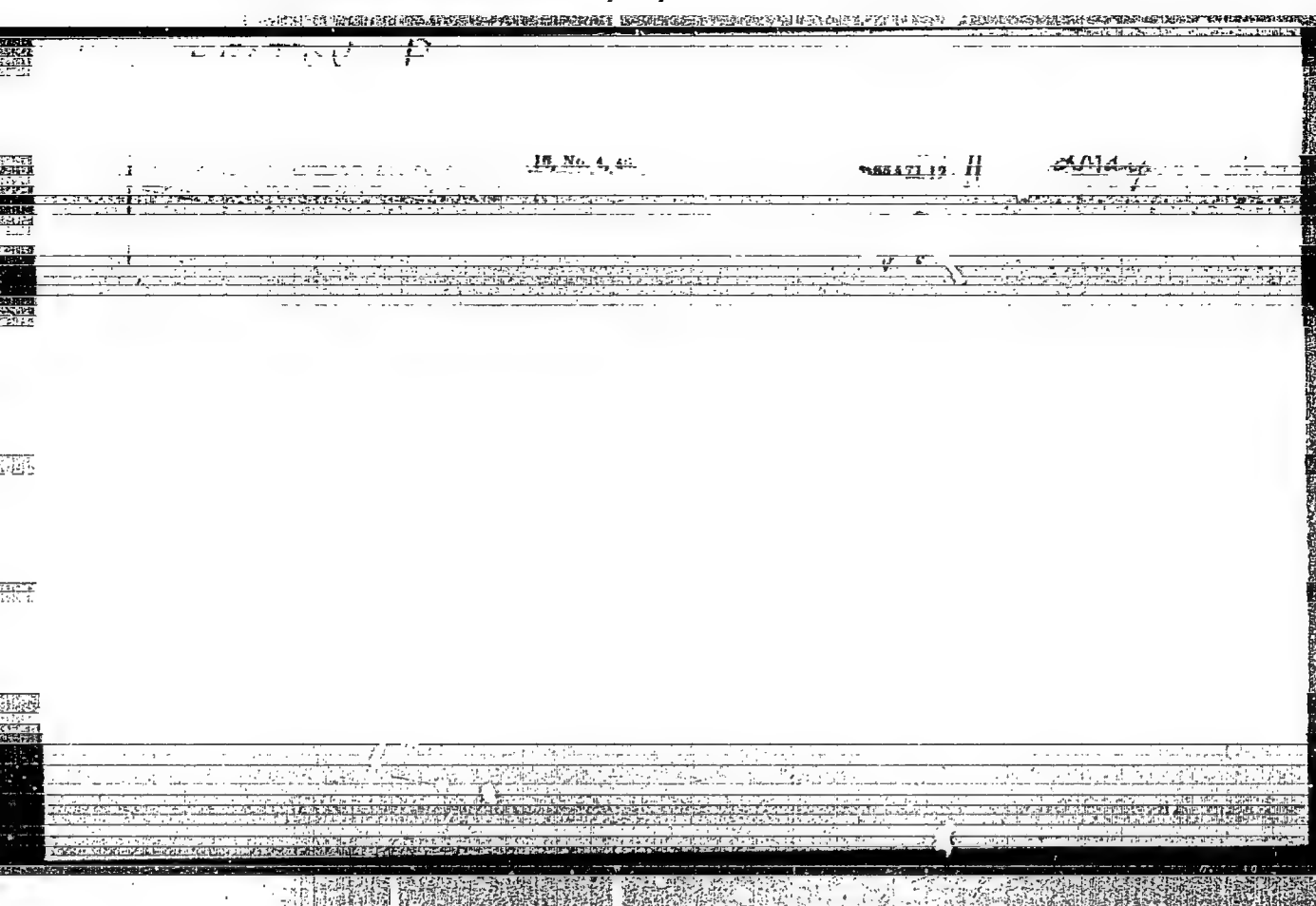
POLYANIN, D.V.; ZOTOV, G.M.; GRYAZNOV, E.A.; MENZHINSKIY, Ye.A.; RUBININ, A.Ye.; CHEBOTAREVA, Ye.D.; ZAKHMATOV, M.I.; OKUNEVA, L.P.; SHMELEV, V.V.; STULOV, A.A.; POKROVSKIY, A.N.; SHIL'DKRUT, V.A.; IVANOV, A.S.; NABOROV, V.B.; FINOGENOV, V.P.; KUR'YEROV, V.G.; KHRAMTSOV, B.A.; BATYGIN, K.S.; BOGDANOV, O.S.; KROTOV, O.K.; GONCHAROV, A.N.; KRESTOV, B.D.; LYUBSKIY, M.S.; SOKOL'NIKOV, G.O.; KAMENSKIY, N.N.; YASHCHENKO, G.I.; SABEL'NIKOV, L.V.; GERCHIKOVA, I.N.; FEDOROV, B.A.; STEPANOV, G.P.; BORODAYEVSKIY, A.D.; INGATUSHCHENKO, S.K.; VARTUMYAN, E.L.; KAPELINSKIY, Yu.N., red.; MAYOROV, B.V., red.; NABOROV, V.B., red.; SOLODKIN, R.G., red.; DROZDOV, A.G., red.; ROZHCHINA, L., red.; SOLOV'YEVA, G., mladshiy red.; CHEPELEVA, O., red.

[The economy of capitalist countries in 1961; economically developed countries] Ekonomika kapitalisticheskikh stran v 1961 godu; ekonomicheskii razvitye strany. Pod red. I.U.N. Kapelinskogo. Moskva, Sotsekgiz, 1962. 447 p. (MIRA 16:2)  
(Economic history)



"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000826710001-6



APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000826710001-6"

KROTOV, P.V., starshiy nauchnyy sotrudnik

Single-phase electric locomotive with silicon rectifiers. Trudy  
TSNIIME no.34:41-51 '62. (MIRA 16:1)  
(Electric locomotives) (Electric current rectifiers)

KROTOV, P.V., starshiy nauchnyy sotrudnik; BOLDOV, M.Ye., starshiy  
nauchnyy sotrudnik; SHVIONOV, I.V., mladshiy nauchnyy sotrudnik

Studying silicon rectifiers. Trudy TSNIME no.34:53-~~69~~ '62.  
(Electric locomotives) (Electric current rectifiers) (MIRA 16:1)

АБОТОВ, Р.В., инж.

Electrification of narrow-gauge railroads. Theor. for. transp. 46  
no.10:73-77 0 '64. (MIRA 17:11)

KRSTOV, S.

36046 MeKhanizirovanny maslozavod iz stornyykh konstruksiy. Moloch prom-st',  
1949, No. 11, S. 12-17

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, 1949

KROTOV, S.

KROTOV, S.

Dairy Plants

Constructing a creamery with prefabricated sections. Mol. prom. 13  
No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952~~1952~~, Uncl.

PROTOV, S. A., KOLPAKOV, A. S.

PROTOV, S. A., KOLPAKOV, A. S.

Buildings prefabricated

Large panel construction of industrial enterprises. Stroi. prom. 30,  
No. 3, March 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952 ~~1952~~, Uncl.

USSR/Engineering - Prefabricated Construction  
Sep 53

"Experience of Constructing Industrial Buildings of Large Panels," Engr S. A. Krotov, Tsentrmaslostroy

Byull Stroi Tekh No 14, pp 1-4

States Tsentrmaslostroy trust has designed a creamery plant of prefabricated reinforced-concrete panels made at the trust's mfg plants. First exptl prefab creamery erected 1950 at Svecba stantsiya, Kirovskaya Oblast. Mass production of prefab parts

270785

organized 1952 at plant in Vologda, and group of prefab creameries erected in Voronezhskaya and Kurskaya Oblasts. Wall panels are 4.5 X 1.0 and 4.5 X 1.6 m in dimension; corresponding wts are 1.7 and 2.5 tons. Describes construction of panels, with dimensions, and buildings.

270785



PA 27/49T29

USSR/Chemistry - Aluminum, Corrosion of Jan/Feb 49  
Chemistry - Corrosion of Aluminum, by  
Saline Solution

"Processes of Drop Corrosion of Aluminum: I, Corro-  
sion of Aluminum in Contact With Drops of Saline  
Solutions Without the Addition of Free Acid," V. Krotov  
T. M. Khaudurova, Moscow Avn Inst Inent S.  
Ordzhonikidze, 9 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1

Makes several new observations on processes of drop  
corrosion in aluminum. Shows characteristic role of  
atmospheric oxygen in these processes. Considers  
results of experiments from thermodynamic standpoint.  
27/49T29

USSR/Chemistry - Aluminum, Corrosion of Jan/Feb 49  
(Contd)

Calculates characteristics and changes of the oxide  
film on aluminum. Submitted 3 Jan 48.

KROTOV, V.

27/49T29

KROTOV, V., delegat XXI s"yezda Kommunisticheskoy partii Sovetskogo  
Soyusa.

Heavy industry is the basis of our country's might. Voen.  
znaniya 35 no.6:3-5 Je '59. (MIRA 12:12)

1. Direktor Ural'skogo zavoda tyazhelogo mashinostroyeniya  
im. S.Ordashonikidse.  
(Sverdlovsk--Machinery industry)

33219

S/141/61/004/006/005/017  
E032/E114

9.9441

AUTHORS: Gorskiy, S.M., and Krol'ov, V.A.

TITLE: Some characteristics of atmospheric noise in the  
range 2 - 25 cps

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,  
Radiofizika, v.4, no.6, 1961, 1025-1028

TEXT: The aim of this work was to investigate the intensity and the spectral distribution of the vertical magnetic component of the electromagnetic field associated with atmospheric noise in the frequency range 2-25 cps. The measurements were carried out in the Crimea. The atmospheric noise was received by a  $5 \times 10^4$  m<sup>2</sup> horizontal frame antenna. The block diagram of the arrangement is given in Fig.1. The amplifier had a symmetric input and an asymmetric output. The maximum amplification coefficient was  $2.5 \times 10^5$  and could be reduced by factors of 2.5 and 10 respectively. The amplified signals were recorded on magnetic tape and could also be inspected visually on the screen of an oscillograph. The minimum detectable signal was  $2 \times 10^{-10}$  oe. It was found that the rms fluctuation in the magnetic component Card 1/6 3

33219

Some characteristics of atmospheric...

S/141/61/004/006/005/017  
E032/E114

during October was  $5 \times 10^{-9}$  oe. The signals were also analysed with an optical Fourier analyser with a resolution of 0.1 cps (V.A. Zverev, Ye.F. Orlov, Ref.8; Pribery i tekhnika eksperimenta, in press).

Fig.4 shows a typical spectrogram of atmospheric noise. The spectrum is not flat; its intensity increases at lower wavelengths and there is a sharp line at 9 cps (roughly in the middle of the picture). This line is ascribed to a cavity resonance, in accordance with the suggestion put forward by W.O. Schumann and H. König (Ref.9; Naturwiss., v.41, 183 (1954)). It is pointed out that the line was not observed after sunset. Fig.5 shows the spectral density of atmospheric noise averaged over 25 sets of observations for September and October as a function of frequency. The slight minimum between 5 and 10 cps is interpreted as the boundary between the atmospheric noise spectrum and the geomagnetic micropulsation spectrum. Acknowledgments are expressed to V.A. Zverev and M.M. Kobrin for their valuable suggestions.

Card 2/ 3

33219

Some characteristics of atmospheric...

S/141/61/004/006/005/017  
E032/E114

There are 5 figures and 9 references; 3 Soviet-bloc and 6 non-Soviet-bloc. The four most recent English language references read as follows;

Ref.3: E.F. Pierce. J.Res.Nat.B.St., v.64-D, 4 (1960).

Ref.4: A.D. Watt, J.Res.Nat.B.St., v.64-9, 4 (1960).

Ref.6: W.H. Campbell, J.Res.Nat.B.St., v.64-D, 4 (1960).

Ref.7: Obayashi Tatsuzo, Rept.Ionos. Res. Japan, v.12, 3 (1958).

ASSOCIATION: Gor'kovskiy nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete  
(Gor'kiy Scientific Research Radiophysics Institute  
at Gor'kiy University)

SUBMITTED: April 14, 1961

Card 3/8 3

RUMYANTSEV, G.N., redaktor; BORISOV, N.I., redaktor; BUYANTUYEV, B.B.,  
redaktor; KROTOV, V.A., redaktor; RAZUMOV, I.M., redaktor;  
KHADALOV, P.I., redaktor; SHNIPER, R.I., redaktor; AKHANOV,  
Ts.B., tekhnicheskiy redaktor.

[Studies on the production forces of the Buryat-Mongolian  
A.S.S.R.] Materialy po izucheniiu proizvoditel'nykh sil  
Buriat Mongol'skoi ASSR. Ulan-Ude, Buriat-Mongol'skoe kn-vo.  
no.1. 1954. 425 p. (MLRA 9:5)  
(Buryat-Mongolia--Economic geography)

POPOV, S.D., otv.red.; BORISOV, N.I., red.; BUYANTUYEV, B.R., red.; GALAKTIONOV, I.I., red.; ~~KHOTOV, V.A.~~ red.; OZNOBIN, M.M., red.; PAVLOVSKIY, Ye.V., red.; TARASOV, G.L., red.; SHNIPER, R.I., red.; AKHANOV, TS.B., tekhn.red.

[Studies on the production forces of the Buryat-Mongolian A.S.S.R.]  
Materialy po izucheniiu proizvoditel'nykh sil Buriat-Mongol'skoi ASSR.  
No.2. Ulan-Ude, Buriat-Mongol'skoe knizhnoe izd-vo. 1955 507 p.  
(MIRA 12:4)

1. Akademiya nauk SSSR. Vostochno-Sibirskiy filial. 2. Sovet po izucheniyu proizvoditel'nykh sil AN SSSR (for Popov, Galaktionov, Tarasov).
  3. Zamestitel' predsedatelya Soveta Ministrov Buryat-Mongol'skoy ASSR (for Borisov). 4. Vostochno-Sibirskiy filial AN SSSR (for Buyantuyev).
  5. Institut ekonomiki AN SSSR (for Oznobin). 6. Gosplan Buryat-Mongol'skoy ASSR (for Shniper).
- (Buryat-Mongolia—Geography, Economic)

PHASE I BOOK EXPLOITATION 822

Krotov, V.A.

Irkutskaya oblast', ekonomiko-geograficheskiy obzor (Irkutskaya oblast'; an Economic and Geographical Survey) [Irkutsk] Irkutskoye knizhnoye izd-vo, 1956. 32 p. 15,000 copies printed.

Ed. (title page): Silinskiy, P.P.; Ed. (inside book): Shafirova, A.S.; Tech. Ed.: Trushkina, T. M.

PURPOSE: This booklet is intended for the general public and students interested in the geography and economics of Eastern Siberia.

COVERAGE: The material presented in this booklet is an expanded version of the text of a public lecture sponsored by the Irkutsk section of the Obshchestvo po resprostraneniyu politicheskikh i nauchnykh znaniy (Society for the propagation of Political and Scientific Knowledge) and by the Vostochno-Sibirskiy filial (East Siberian Branch) of the USSR Academy of Sciences. The author discusses briefly the history and geography of Irkutskaya oblast', its weather conditions and natural resources, its population, industry, agriculture and transportation. He foresees a bright future for Irkutskaya oblast' insofar as its industrial potential is concerned. Its planned industrial development is based primarily on the existing and future supply of hydroelectric energy. The Bratsk hydroelectric

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## Irkutskaya oblast'; an Economic and Geographical Survey 822

plant alone, which is being constructed on the Angara River, will have a 3,200,000 kw hr. capacity. Its annual output, estimated at 22,000,000,000 kw. hr., will equal the combined output of the Kuybyshev and Stalingrad Hydroelectric stations and will provide energy for the operation of a number of planned industrial plants. Irkutskaya oblast' is rich in gold, coal, muscovite, salt, gypsum, furs and timber. Its timber amounts to 12 percent of the total timber available in the USSR. An oil pipeline is planned from Omsk and Novosibirsk to an Irkutsk refinery now under construction. A number of existing and planned industrial plants and hydroelectric power stations are mentioned. The machine-building industry centers are Irkutsk, Usol'ye, Angarsk and Cherekhovo. The author also mentions the fact that there is no cement factory in Irkutskaya oblast' and that its network of railroads and paved roads is one of the poorest in the USSR. A chemical industry based on the available minerals and sawmill wastes will become one of the most important local industries. No personalities are mentioned. There are no references.

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Irkutskaya oblast'; an Economic and Geographical Survey 822

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Internal Diversity

30

Maps:

1. Administrative rayons
2. Principal mineral products and industrial centers
3. Chart of areas under cultivation

AVAILABLE: Library of Congress

Card 3/3

GO/fal  
11-1-58

KROTOV, V.

V. KROTOV, Chairman of the Presidium of the East Siberian Branch, Acad. Sci. USSR,  
author of article "Increase the Role of Science in Developing the Eastern  
Areas of the USSR,"  
SO: Pravda, 4 May 1956.

KROTCV, V.A.

Development and distribution of productive forces of Eastern Siberia in the sixth five-year plan and some problems of geographical research. Izv. AN SSSR.Ser.geog.no.4:76-84 J1-Ag '56. (MIRA 9:10)

1.Vostochno-Sibirskiy filial Akademii nauk SSSR.  
(Siberia, Eastern--Economic policy)